

REMARKS

The Office Action mailed March 4, 2009 has been carefully reviewed and the foregoing Amendment has been made in consequence thereof.

Claims 18-23 are pending in this application. Claims 18-23 stand rejected.

The rejection of Claims 18-23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,059,123 to Bartos et al. (hereinafter referred to as “Bartos”) in view of U.S. Patent 5,944,483 to Beck et al. (hereinafter referred to as “Beck”) or U.S. Patent 5,273,395 to McDermott (hereinafter referred to as “McDermott”) is respectfully traversed.

Preliminarily, the Office Action fails to provide a single reference showing a nozzle assembly positioned within a gas turbine engine and upstream of a compressor. Rather, as described in detail below, Bartos is essentially silent as to the positioning of the nozzle assembly with respect to the gas turbine engine, and Beck and McDermott teach away from positioning the nozzle assembly within the gas turbine engine and upstream of the compressor. Moreover, Page 2 of the Office Action states:

“Regarding the §103 rejection over BARTOS in view of BECK or MCDERMOTT, applicant argues that BECK teaches away because BECK cleans a turbine by spraying downstream of a compressor. This is not persuasive because this is not the teaching of BECK relied upon for the rejection. Rather, BECK is relied upon solely for the teaching that it is known that gas turbines comprise a compressor. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. Thus, whether or not BECK teaches cleaning upstream or downstream of the compressor is irrelevant to the Examiner’s combination.” (citing W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540 (Fed. Cir. 1983)) (emphasis added) (internal citations omitted).

Applicants respectfully submit this interpretation is flawed. Cited below is text from M.P.E.P. Section 2141.02 (VI):

“A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) (Claims were directed to a process of producing a porous article by expanding shaped, unsintered, highly crystalline poly(tetrafluoroethylene) (PTFE) by stretching said PTFE at a 10% per second rate to more than five times the original length. The prior art teachings with regard to unsintered PTFE indicated the material does not respond to conventional plastics processing, and the material should be stretched slowly. **A reference teaching rapid stretching of conventional plastic polypropylene with reduced crystallinity combined with a reference teaching stretching unsintered PTFE would not suggest rapid stretching of highly crystalline PTFE, in light of the disclosures in the art that teach away from the invention, i.e., that the conventional polypropylene should have reduced crystallinity before stretching, and that PTFE should be stretched slowly.**”) (Underlined emphasis and italicized emphasis original; Bolded emphasis added).

According to M.P.E.P. Section 2141.02(VI), it is improper to simply ignore, as being “irrelevant,” the portions of a reference that teach away from a combination. Section 2141.02(VI) clearly states that certain portions of a reference may teach away from a claimed invention and, therefore, may render a combination utilizing that reference insufficient to support an obviousness rejection. Simply put, under Section 2141.02, the portions of a reference that teach away from a combination are not “irrelevant” and must be considered.

In light of this standard, it is respectfully submitted that the cited art, as a whole, is not suggestive of the presently claimed invention. Specifically, Applicants respectfully submit that Beck and McDermott teach away from the present invention, and as such, support the nonobviousness of the present invention. Beck teaches positioning a nozzle ring downstream of a compressor, which teaches away from the recitation in Claims 18 and 20 of positioning a ring manifold upstream from a compressor. Similarly, McDermott teaches positioning a ring manifold outside of and apart from a gas turbine engine, which teaches away from the recitation in Claims 18 and 20 of positioning a ring manifold within a gas turbine engine. Specifically, McDermott teaches generating a fog outside of the gas turbine engine so that the

fog is accelerated into the engine (see, for example, Column 4, Lines 36-39 of McDermott), which would not be possible if the ring manifold of McDermott was positioned within the engine, as recited in Claims 18 and 20. As such, Applicants respectfully submit that Beck and McDermott teach away from the presently claimed invention and, therefore, cannot support an obviousness rejection of the presently claimed invention.

Moreover, Bartos describes a turbine engine cleaning unit (10). Unit (10) includes a water reservoir (18), a preservative reservoir (20), a cleaner reservoir (22), and a solvent reservoir (24). A ring assembly (96) injects fluid into a gas turbine engine. Ring assembly (96) includes two arcuate tube sections (222, 224) that are each coupled to a T-section (226). T-section (226) is coupled to a high pressure hose (94) that is coupled in flow communication with unit (10). Ring assembly (96) is mounted "in coaxial symmetry with the hub shroud of the turbine engine." See Column 5, Lines 26-28 of Bartos. Notably, Bartos does not describe or suggest a ring manifold coupled within a gas turbine engine upstream of a compressor. Rather, Bartos is essentially silent with respect to the exact placement of ring assembly (96), other than the general statement that ring assembly (96) is to be mounted coaxially with the hub shroud.

Beck describes an exhaust-gas turbine of a turbocharger having a turbine casing (1) formed by gas-inlet and gas-outlet casings (2 and 3). A turbine impeller (5) is positioned upstream of a nozzle ring (7), and a flow duct (8) is formed between turbine impeller (5) and turbine casing (1). Flow duct (8) receives exhaust gases of a diesel engine connected to the turbocharger and passes them on to turbine impeller (5) (i.e., flow duct (8) is positioned downstream of a compressor). A nozzle ring (7) having a plurality of nozzles (11) is positioned such that each nozzle (11) extends into flow duct (8) to facilitate injecting water (37) into flow duct (8). Notably, Beck does not describe or suggest a ring manifold coupled within a gas turbine engine upstream of a compressor. Rather, Beck describes positioning a nozzle ring (7) downstream of a compressor.

McDermott describes a method of cleaning a gas turbine engine. The gas turbine engine includes a cylindrical hollow portion (2) and a curved air-flow directional portion (4). A manifold ring (20) is mounted outside of and apart from the gas turbine engine via a support frame (38). Notably, McDermott does not describe or suggest a ring manifold coupled within a gas turbine engine upstream of a compressor. Rather, McDermott describes positioning a manifold ring outside of and apart from a gas turbine engine.

Claim 18 recites a gas turbine engine including “a compressor; a pump; and a ring manifold coupled in fluid communication with said pump, said ring manifold mounted within said gas turbine engine upstream from said compressor, said ring manifold comprising a plurality of circumferentially-spaced spray nozzles, at least one of said plurality of circumferentially-spaced spray nozzles operable to discharge a first liquid to facilitate removing particulate matter and a second liquid to facilitate reducing a rate of formation of particulate matter, at least one of said plurality of circumferentially-spaced spray nozzles oriented to discharge at least one of the first liquid and the second liquid radially inwardly such that at least a portion of said compressor is coated with the first liquid and the second liquid discharged from said spray nozzles.”

No combination of Bartos, Beck, and McDermott describes or suggests a gas turbine engine as is recited in Claim 18. Specifically, no combination of Bartos, Beck, and McDermott describes or suggests a ring manifold coupled within a gas turbine engine upstream of a compressor. Rather, in contrast to the claimed invention, Bartos is essentially silent with respect to the exact positioning of a ring assembly, Beck describes positioning a nozzle ring downstream of a compressor, and McDermott describes positioning a manifold ring outside of and apart from a gas turbine engine. Accordingly, Claim 18 is submitted as being patentable over Bartos, Beck, and McDermott.

Claim 19 depends from independent Claim 18. When the recitations of dependent Claim 19 are considered in combination with the recitations of Claim 18, Applicants respectfully submit that Claim 19 likewise is patentable over Bartos, Beck, and McDermott.

Claim 20 recites a washing system for a gas turbine engine having a compressor, the washing system including “a pump; and a ring manifold coupled in fluid communication with said pump, said ring manifold mountable within said gas turbine engine upstream from the compressor, said ring manifold comprising a plurality of circumferentially-spaced spray nozzles, at least one of said plurality of circumferentially-spaced spray nozzles oriented to discharge liquid radially inwardly, wherein at least one of said plurality of spray nozzles is operable to inject a first liquid to facilitate removing particulate matter and a second liquid to facilitate reducing a rate of formation of particulate matter.”

No combination of Bartos, Beck, and McDermott describes or suggests a washing system for a gas turbine engine as is recited in Claim 20. Specifically, no combination of

Bartos, Beck, and McDermott describes or suggests a ring manifold mountable within a gas turbine engine upstream of a compressor. Rather, in contrast to the claimed invention, Bartos is essentially silent with respect to the exact positioning of a ring assembly, Beck describes positioning a nozzle ring downstream of a compressor, and McDermott describes positioning a manifold ring outside of and apart from a gas turbine engine. Accordingly, Claim 20 is submitted as being patentable over Bartos, Beck, and McDermott.

Claims 21-23 depend from independent Claim 20. When the recitations of dependent Claims 21-23 are considered in combination with the recitations of Claim 20, Applicants respectfully submit that Claims 21-23 likewise are patentable over Bartos, Beck, and McDermott.

For at least the reasons set forth above, Applicants respectfully request that the rejection of Claims 18-23 under Section 103 be withdrawn.

In view of the foregoing amendment and remarks, all of the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully submitted,



William J. Zychlewicz
Registration No. 51,366
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070